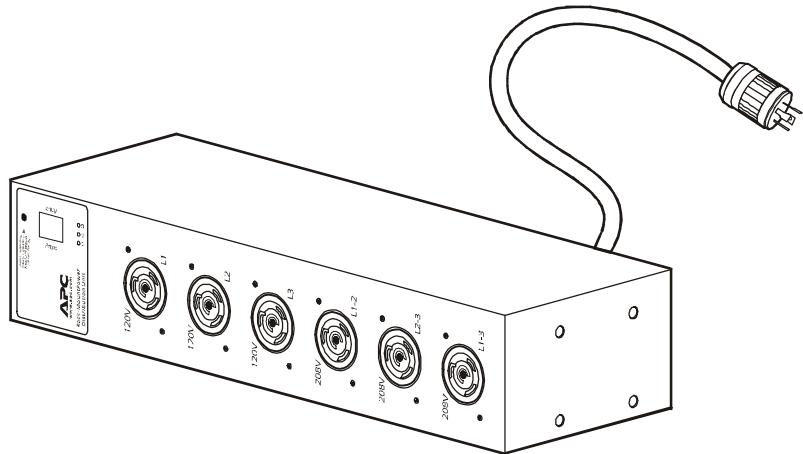


Rack Power Distribution Unit — AP7610

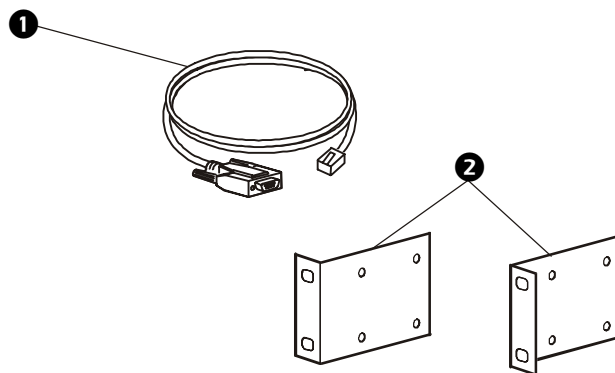
Product Description and Inventory

Description

The AP7610 Rack PDU mounts horizontally in any standard 19-inch EIA-310-compliant rack or enclosure. This Rack PDU is metered—equipped with a sensor that measures the current being used by the Rack PDU and any devices connected to it. The value shown on the display interface is the aggregate current of an individual phase. This value will generate an alarm if it is outside the threshold values that you define. This Rack PDU has three L5-20 outlets, three L6-20 outlets, and a L21-20 plug.



Inventory



	Description	Part Number	Quantity
❶	Serial cable	940-0144	1
❷	Rack-mount brackets	870-1466	2


AP7610-compatible Rack PDUs

The AP7610 Metered Rack PDU requires connection to an additional Rack PDU. The following APC Rack PDUs are compatible with the AP7610:

Compatible APC 120 V PDUs			
PDU	Plug	Outlets	Manageable
AP9563	L5-20	Ten NEMA 5-20	No
AP9551	L5-20	Fourteen NEMA 5-15	No
AP9228	L5-20	Sixteen NEMA 5-15	Yes
Compatible APC 208 V PDUs			
PDU	Plug	Outlets	Manageable
AP9558	L6-20	Twelve IEC 320-C13	No
AP9559 [†]	IEC 320 C20	Ten IEC 320-C13; Two IEC 320-C19	No
AP9554 [†]	IEC 320 C20	Fourteen IEC 320-C13	No
AP9229 [†]	IEC 320 C20	Eight IEC 320-C13	Yes
[†] Using these Rack PDUs with AP7610 requires an additional power cord (AP9871).			

Power cord available for purchase

The following power cord can be purchased from APC:

APC SKU	Description	Cord Ends
AP9871	IEC 320 C19 to NEMA L6-20	

Safety and Grounding

Read the following information before installing or operating your APC AP7610 Rack PDU:

- The Rack PDU is intended only for use with four-wire grounded connections on APC Uninterruptible Power Supplies (UPS). Do not plug the Rack PDU into a wall outlet or other device.
- This Rack PDU is intended to be installed and operated only with the provided mounting hardware.
- This Rack PDU is intended for indoor use only.
- Do not install this Rack PDU where excessive moisture or heat is present.
- Do not use extension cords or adapters with this Rack PDU.
- Check that the power cord, plug, and socket are in good condition.
- Disconnect the Rack PDU from the power outlet before you install or connect equipment to reduce the risk of electric shock when you cannot verify grounding. Reconnect the Rack PDU to the power outlet only after you make all connections.
- Install the Rack PDU so that the power plug may be disconnected for service. The socket-outlet shall be installed near the equipment and shall be readily accessible.
- Install the Rack PDU so that there is not an uneven mechanical load.
- Follow the nameplate ratings when connecting equipment to the supply circuit. Do not overload the circuits. An overload condition could put your over-current protection at risk or cause problems with your supply wiring.
- This Rack PDU contains a non-replaceable lithium coin cell battery. Do not attempt to replace the battery.



Caution

Risk of electrical shock. Use only the supplied hardware to attach the mounting brackets.

How to Install the PDU

Overview

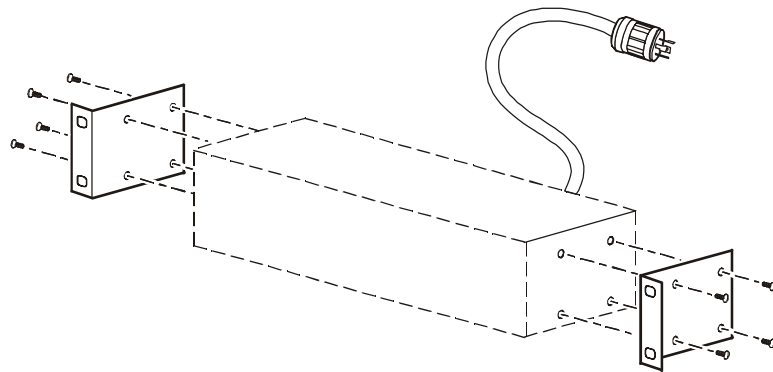
Install the AP7610 Rack PDU in the rear, top two U-spaces of a rack or enclosure for overhead wiring, or in the rear, bottom two U-spaces for under-floor wiring. To install the Rack PDU in a NetShelter[®] Standard Enclosure:

1. Attach a bracket to each side of the Rack PDU, using the pan-head screws.

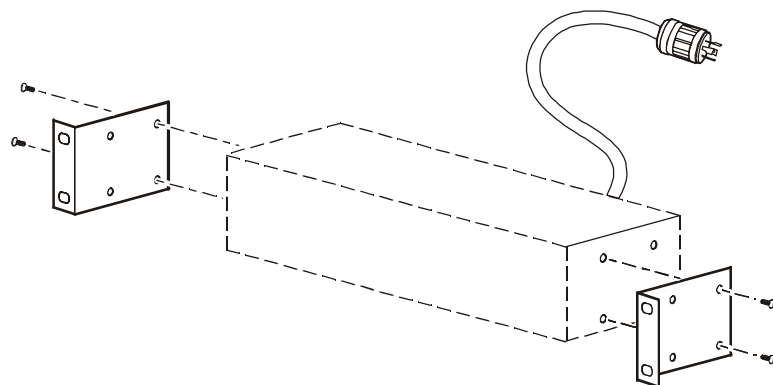


Some enclosures may require you to recess the Rack PDU so that the back doors of the enclosure will close when other devices are plugged in.

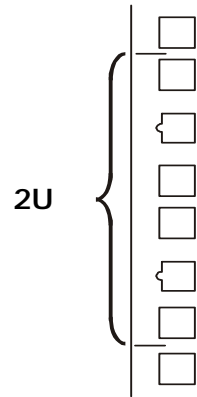
For placement flush-to-rack: use four pan-head screws (provided) for each bracket.



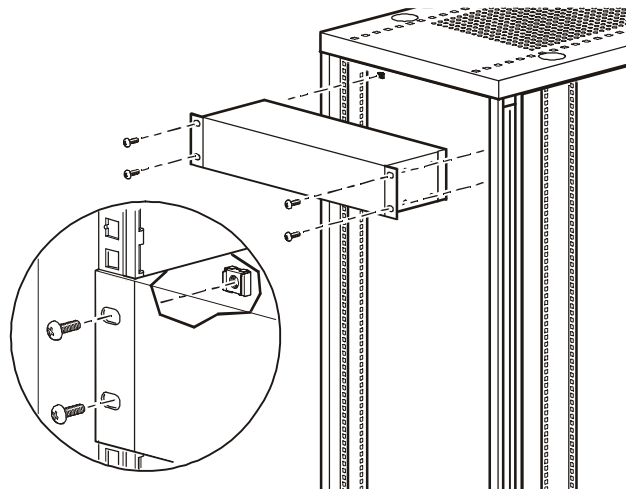
For a recessed placement: use two pan-head screws (provided) through the last two holes of the mounting brackets and into the first two holes on the Rack PDU.



1. Insert caged nuts (provided with the enclosure) on the vertical mounting rails above a notched hole at the start of the top two U-spaces in your enclosure and below the notched hole at the lower end of the two U-spaces.

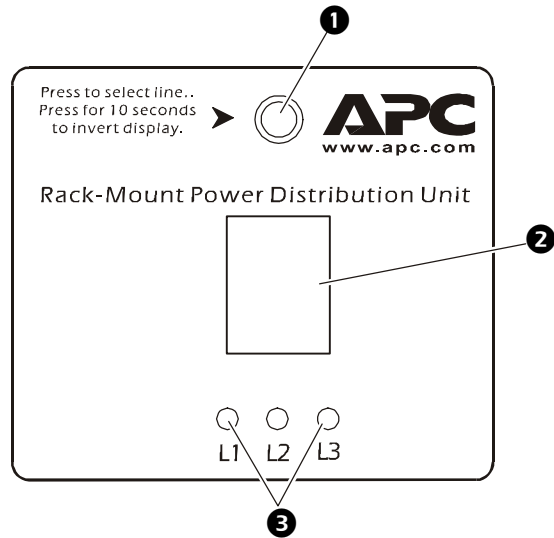


2. Align the mounting holes on the brackets with the caged nuts you installed in step 1, and insert four mounting screws (provided with the enclosure) to secure the brackets to the enclosure.



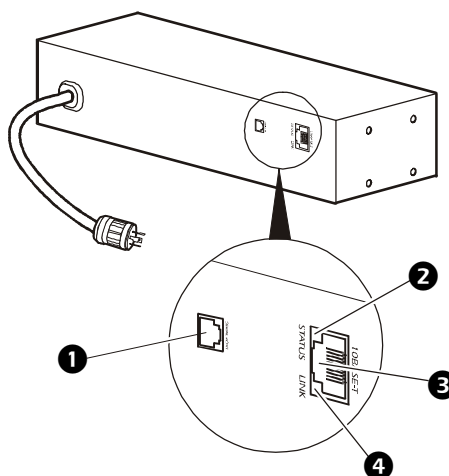
Operation

Display interface



1	Control button: <ul style="list-style-type: none">• Press to change the phase of the current displayed on the digital display.• Press and hold for five seconds to view the orientation; hold for an additional five seconds to change the orientation.
2	Display of the current used by the Rack PDU and attached devices: <ul style="list-style-type: none">• Shows the aggregate current for the phase corresponding to the Phase Indicator LED that is illuminated.• Cycles through all three phases in 3-second intervals.
3	Phase indicator LEDs: <ul style="list-style-type: none">• Indicates the phase corresponding to the current listed in the digital display.• Indicates normal (green), warning (yellow), or alarm (red) condition.

Rear of AP7610



1	Serial port: Access internal menus by connecting this port (RJ-11 modular port) to a serial port on your computer, using the supplied serial cable (part number 940-0144).
2	Status LED: Indicates the status of the network connection and the state of the Rack PDU.
3	Ethernet port: Connects the Rack PDU to the InfraStruXure™ network, using a CAT-5 network cable.
4	Link LED: Indicates whether there is activity on the network.

Alarm conditions

Configure warning and alarm limits through the internal menus, using a serial port connection.

The Rack PDU shows warning and alarm conditions as follows:

Phase Indicator LED	Displays yellow for a warning and red for an alarm.
Digital display	If one phase is at or above the warning or alarm limit, the display shows the current for that phase. If more than one phase is at or above the warning or alarm limit, the display cycles among those phases, displaying their current.
Control Button	Pressing this button causes the digital display to display the current for the next phase for 30 seconds. Then it returns to the display of the current for any phases that are at or above the warning or alarm limits.

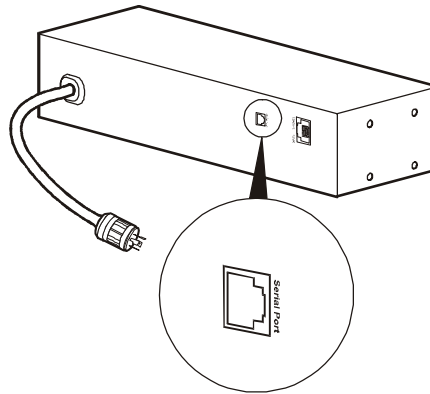


Do not exceed the maximum voltage and current ratings listed on the rear panel of the Rack PDU.

Rack PDU Configuration

How to configure through a serial port connection

1. Connect an available serial port on your computer to the serial port on the Rack PDU (shown below), using the supplied configuration cable (940-0144).



2. Run a terminal emulation program such as Windows[®] HyperTerminal.
3. Configure the following settings for the serial port:
 - 19,200 bps
 - no parity
 - 8 data bits
 - 1 stop bit
 - no flow control



Note

Some terminal emulation programs require that a device be disconnected and then reconnected for the new serial port settings to take effect.

4. Press any key on the computer to display the Rack PDU login screen, which contains the username and password prompts.
5. Log on by using the user name and password for the appropriate access level:

Access Level	Default User Name	Default Password
Administrator	Press ENTER.	Type apc (in lowercase).
User	Press ENTER.	Press ESC.

Using the menus

To view a menu, type the associated number and press ENTER.

Users can view all data, but only administrators can configure parameters.

The main menu has the following options:

Option Number	Option	Access
1	Status Information	User and Administrator
2	Rack PDU Configuration	Users can display the parameters. Administrators can configure them.
3	Device Data	Users can display the parameters. Administrators can configure them.
4	Factory Data	User and Administrator
5	Logout	User and Administrator
6	System Management	Available only when you are logged in as Administrator.

Status Information option

Status Information, main menu option 1, displays the output current, in amps, for each phase from the Rack PDU and reports if the load is at or above the configured limits for output current.

Rack PDU Configuration option

Rack PDU Configuration, main menu option 2, provides the following options:

Option Number	Option	Access
1	Warning and Alarm Threshold Data for output current.	Users can display the parameters. Administrators can configure them.
2	Audio/Visual Indicator Settings to enable or disable the audible alarm and digital display and to set the orientation of the display.	

Settings are displayed for each phase.

- To change a warning and alarm threshold, type the number of the setting, press ENTER, type the new value, and press ENTER again.
- To change an audio/visual indicator setting:
 - a. Type 1, and press ENTER to move the arrow cursor to the next setting.
 - b. Type 2, and press ENTER to change the selected setting.
 - c. Type the number listed for the setting you want, and press ENTER.

Device Data option

Device Data, main menu option 3, has the following settings:

Setting	Description	Access
Product Name	A unique name that you assign to the device.	Users can display the parameters. Administrators can configure them.
Product Location	For example, the enclosure in which the Rack PDU is installed.	
Contact Information	For example, a name or phone number of a person to contact.	
Log Timeout (mins)	The number of minutes a user can be inactive before being logged off.	
Admin Password	The password of the Administrator account (displayed as asterisks to users).	

To change as setting:

1. Type 1, and press ENTER to move the arrow cursor to the next setting.
2. Type 2, and press ENTER to change the selected setting.
3. Type the new value, and press ENTER.

Factory Data option

Factory Data, main menu option 4, displays the following information about the Rack PDU:

- Model number
- Serial number
- Hardware revision
- Date of manufacture
- Firmware revision
- Date on which the firmware was installed

You cannot change any of these items.

Logout option

Logout, main menu option 5, logs you off from the interface.

System Management option

System Management, main menu option 6, is accessible only when you are logged on as Administrator.

Type the number of any one of the following options, and press ENTER to select it.

Option Number	Option	Description
1	Restart RMPDU	Restarts the Rack PDU while maintaining the present settings.
2	Restore Default Parameters and Restart	Resets all parameters to their default settings, and restarts the Rack PDU.
3	Firmware Download	Prepares to download firmware. See “How to Download Firmware to a Rack PDU” on page 12.

How to Download Firmware to a Rack PDU



Note

During firmware downloads, power will not be interrupted to the Rack PDU outlets.

1. Go to www.apc.com/tools/download/ to see if there is a more recent firmware version for your type of Rack PDU.
2. Access the Rack PDU internal menus through a serial port connection.



Follow the instructions in “How to configure through a serial port connection” on page 8.

3. Log on to the Rack PDU as an Administrator.
4. Type 6 (for **System Management**) on the Main menu and press ENTER.
5. Type 3 (for **Firmware Download**) on the **System Management** menu, and press ENTER.
6. From the **Firmware Download** menu:
 - a. Type 1 and press ENTER to initiate a download. The menu displays C repeatedly and the display interface displays dL.
 - b. Select the **Transfer** pull-down menu from the menu bar.
 - c. Select **Send File** from the **Transfer** pull-down menu.
 - d. Browse for and select the firmware file you copied to your computer.
 - e. Set the protocol to **Xmodem** and press the **Send** button.

When the firmware download is complete, the display interface refreshes and displays the current in amps.

Specifications

AP7610

Electrical	
Input connector	NEMA L21-20 plug
Output connectors	Three NEMA L5-20 outlet; Three NEMA L6-20 outlet
Nominal input voltage	208 (3PH)
Acceptable input voltage	100–125/200–250 VAC
Maximum Input Current (per phase)	16 A
Load Capacity	7200
Physical	
Size (H x W x D)	3.5 × 17.6 × 6 in (8.89 x 44.7 x 15.24 cm)
Weight	7.85 lb (3.57 kg)
Shipping dimensions (H x W x D)	7.75×21×9.25 in (19.68 x 53.34 x 23.5 cm)
Shipping weight	10.5 lb (4.77 kg)
Environmental	
Elevation (above MSL): Operating: Storage:	0 to 10,000 ft (0 to 3000 m) 0 to 50,000 ft (0 to 15 000 m)
Temperature: Operating: Storage:	23 to 133° F (–5 to 45° C) –13 to 149° F (–25 to 65° C)
Humidity: Operating: Storage:	5 – 95% 5 – 95% non-condensing
Compliance	
Approvals	cUL Listed, FCC Part 15 Class A, UL Listed, VCCI

Radio Frequency Interference



Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. The user will bear sole responsibility for correcting such interference.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

この装置は規定に準拠しています。
この装置を住宅地域またはその周
囲で使用する場合、ラジオやテレビへの
電波障害を及ぼすことがあります。 VCCI-A

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 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support with FAQs, knowledge base, and e-support.
- Contact an APC Customer Support center by telephone or e-mail.
 - Regional centers:

APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702055 (Ireland)
Japan	(0) 35434-2021

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